ecology and environment, inc.
Global Environmental Specialists
720 Third Avenue, Suite 1700, Seattle, WA 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: July 31, 2012

TO: Steve Hall, START-3 Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ: **Organic Data Quality Assurance Review, Avery Landing Site, Avery, Idaho**

COC: 12-05-0006-23

REF:

TDDs: 12-05-0006	PANs: 002233.0790.01RA
12-05-0007	PANs: 002233.0791.01RA
12-05-0008	PANs: 002233.0792.01RA
12-05-0009	PANs: 002233.0793.01RA

The data quality assurance review of two soil samples collected from the Avery Landing Site (consisting of the Avery Bentcik, Avery IDOL, Avery FHWA, and Avery Potlatch sites) located in Avery, Idaho, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by TestAmerica Seattle, Tacoma, Washington. All sample analyses were evaluated following EPA's Stage 2 and 4 Data Validation Electronic/Manual Process (S4VEM). The samples were numbered: 12060078 12060079

Data Qualifications:

1. **Sample Holding Times: Acceptable.**

The samples were maintained at < 6°C. The samples were collected on July 23, 2012, extracted by July 25, 2012, and analyzed by July 26, 2012, therefore meeting QC criteria of less than 14 days between collection and extraction for soil samples, and less than 40 days between extraction and analysis.

2. **Initial and Continuing Calibrations: Acceptable.**

Calculations were verified as correct. All initial calibration correlation coefficients were ≥ 0.990 and/or all relative percent differences (RPDs) were less than or equal to the laboratory control limits of 15%. All continuing calibration percent differences (%Ds) were ≤ the laboratory control limits of 15%.

3. **Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

4. **Blanks: Satisfactory.**

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel-range TPHs (7.80 mg/kg) and motor oil-range TPHs (17.1 mg/kg) were detected in the method blank; no action was taken as applicable sample results were more than five times the blank results.

5. **System Monitoring Compounds (SMC): Acceptable.**

All recoveries of the SMCs were greater than 10% and within QC criteria.

6. **Performance Evaluation Samples: Not Provided.**
Performance evaluation samples were not provided to the laboratory.

7. **Blank Spikes: Acceptable.**
Blank spike results were within QC limits.

8. **Duplicates: Acceptable.**
Duplicate results were within QC limits.

9. **Quantitation and Quantitation Limits: Acceptable.**
Sample concentrations were correctly calculated.

10. **Laboratory Contact: Not Required.**
No laboratory contact was required.

11. **Overall Assessment of Data for Use**

In samples 12060078 and 12060079, the results in the #2 Diesel and Motor Oil ranges are due to what most closely resembles a complex mixture of heavily weathered/degraded diesel fuel, a mineral/ transformer oil range product, and motor oil. The affected analytes are qualified as estimated quantities with a high bias (JH).

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004), and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.

JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.

JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.

JQ – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the Method Detection Limit (MDL) and the Reporting Limit (RL).

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Client: Ecology and Environment, Inc. Job Number: 580-34089-1

Client Sample ID: 12060078

Lab Sample ID: 580-34089-1 Date Sampled: 07/23/2012 0830
Client Matrix: Solid % Moisture: 22.4 Date Received: 07/24/2012 0950

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-116162	Instrument ID:	SEA012
Prep Method:	3550B	Prep Batch:	580-116125	Lab File ID:	CF00722.D
Dilution:	1.0			Initial Weight/Volume:	10.1228 g
Analysis Date:	07/26/2012 0844			Final Weight/Volume:	10 mL
Prep Date:	07/25/2012 1245			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		1700	B Y	7.3	32
Motor Oil (>C24-C36)		1700	B	12	64

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	115		50 - 150

Client: Ecology and Environment, Inc. Job Number: 580-34089-1

Client Sample ID: 12060079

Lab Sample ID: 580-34089-2 Date Sampled: 07/23/2012 0845
Client Matrix: Solid % Moisture: 22.7 Date Received: 07/24/2012 0950

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	580-116162	Instrument ID:	SEA012
Prep Method:	3550B	Prep Batch:	580-116125	Lab File ID:	CF00724.D
Dilution:	1.0			Initial Weight/Volume:	10.2840 g
Analysis Date:	07/26/2012 0924			Final Weight/Volume:	10 mL
Prep Date:	07/25/2012 1245			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
#2 Diesel (C10-C24)		590	Y B	7.2	31
Motor Oil (>C24-C36)		640	Y B	11	63

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	101		50 - 150